

Exit Ticket- Function Operations

NAME

Key

HOUR _____

Use the given functions to perform the indicated operations.

$$f(x) = 8x - 1$$

$$g(x) = 3x + 2$$

$$h(x) = 5x^2 - 3$$

1. $(f + g)(x)$

$$\underline{8x-1} + \underline{3x+2} = \boxed{11x+1}$$

2. $(f - g)(x) = 8x - 1 - (3x + 2)$

$$8x - 1 - 3x - 2 = \boxed{5x - 3}$$

3. $(g - f)(x)$

$$\underline{3x+2} - \underline{(8x-1)} = 3x+2-8x+1$$
$$= \boxed{-5x+3}$$

4. $(f \cdot g)(x)$

$$\underline{(8x-1)} \underline{(3x+2)} = 24x^2 + \underline{16x} - \underline{3x} - 2$$
$$= \boxed{24x^2 + 13x - 2}$$

5. $(f + h)(x)$

$$\underline{8x-1} + \underline{5x^2-3} = \boxed{5x^2 + 8x - 4}$$

6. $(h - g)(x)$

$$\underline{5x^2-3} - \underline{(3x+2)} = 5x^2 - \underline{3} - \underline{3x} - \underline{2}$$
$$= \boxed{5x^2 - 3x - 5}$$

7. $(h \cdot g)(x)$

$$\underline{(5x^2-3)} \underline{(3x+2)}$$
$$= \boxed{15x^3 + 10x^2 - 9x - 6}$$

8. $(f \cdot h)(x)$

$$\underline{(8x-1)} \underline{(5x^2-3)}$$
$$= \boxed{40x^3 - 24x - 5x^2 + 3}$$